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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,449	03/27/2001	Ming-Dou Ker	JCLA4280-D2	1595

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J.C. Patents
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EXAMINER

CHAMBLISS, ALONZO

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 01/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,449

Applicant(s)

KER ET AL.

Examiner

Alonzo Chambliss

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/329,648.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-25 have been canceled as requested by applicant in pre-amendment A filed on 3/27/01, which has been entered into the file.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/329,648, filed on 6/9/99.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 34, 70, and 550. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 26 and 28 are objected to because of the following informalities: the phrase " and other " should be replaced with – another --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Oku et al. (U.S. 5,394,013).

With respect to Claim 26, Oku teaches a substrate 5 and a stacked metal layers 29a, 71a positioned on the substrate 5, wherein the stacked metal layers 29a, 71a further comprises a plurality of metal layers 29a, 71a and a plurality of dielectric layers 19, 21, 73. The dielectric layers 19, 21, 73 alternately are stacked up with metal layers 29a, 71a being coupled by a plurality of via plugs 44, 46 in the dielectric layers 19, 21, 73 (col. 4 lines 9 lines 15; Fig. 5). The uppermost metal layer 11a positioned on the stacked metal layers 29a, 71a, wherein an area of each metal layer in the stacked metal layer 29a, 71a is smaller than that of the upper most metal layer 11a. The passivation layer 13 has a bonding pad opening positioned on the uppermost metal layer 11a, wherein the bonding pad opening exposes a portion of the uppermost metal layer 11a. The device 41 is located on the substrate 5 just under the bonding pad 11 (see Fig. 5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 27-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oku (U.S. 5,394,013) as applied to claim 26, above and further in view of Yuan (U.S. 5,838,043).

With respect to Claims 27, 28, 33, and 40, Oku discloses the metal layers 29a, 71a having an arrangement (see Fig. 5). Also, the changing shape of the structure is an obvious matter of design choice within one of ordinary skill in the art and the difference in shape of the structure does not make the device operating differently. Note that in the instant specification applicant does not describe the concentric circle arrangement as essential or critical or the only shape that could operate the claimed invention. In re Peters, 723 F.2d 891, 221 USPQ 952 (Fed. Cir. 1983).

With respect to Claim 29, 32, 37, Oku discloses the uppermost metal layer 11a positioned on the stacked metal layers 29a, 71a, wherein an area of each metal layer in

the stacked metal layer 29a, 71a is smaller than that of the upper most metal layer 11a (see Fig. 5). With respect to Claims 36 and 39, Oku discloses a device 41 formed between the source region 35 and the drain region to form a field effect transistor, which has a passive and active device that is under the bonding pad (see col. 8 lines 56-58: Fig. 5). Oku does not teach a substrate having a well with a doped region as a diffusion region formed in the well. A bonding pad over the substrate and aligned with the doped region, wherein the bonding pad comprises a stacked metal layer and an uppermost metal layer. Ions doped in the doped region, which is opposite to those in the well. However, with respect to Claims 30, 36, 38, 39, and 41 Yuan discloses a substrate 27 having a well 33 with a doped region as a diffusion region 6 formed in the well 33. A bonding pad 22 having a metal layer 26 over the substrate 27 and aligned with the doped region. Yuan also discloses ions in the doped region 6 are opposite to those in the well 33 (see Fig. 4). Therefore, it would have been obvious to use substrate having a well with a doped region as a diffusion region formed in the well with Oku, since the substrate would produce a low capacitance semiconductor device which is faster than conventional protection circuits and reduce the space required by protection circuits as taught by Yuan.


With respect to Claims 34 and 35, Oku discloses metal layer 29a aligned with the adjacent metal layer 71a in the stack and metal layer 29b is not aligned with metal layer 71b (see Fig. 5).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show the product of the instant invention.

Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703) 306-9143. The fax phone number for this Group is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956.


Alonzo Chambliss
Supervisory Patent Examiner
Technology Center

AC

AC/January 13, 2002